

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* J. YONG RYU, LAWRENCE A. SMITH, JR. ,  
ABRAHAM P. GELBEIN and FRITS DAUTZENBERG

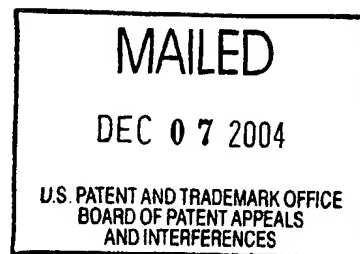
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Appeal No. 2004-1644  
Application No. 10/071,341

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ON BRIEF

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Before KIMLIN, OWENS, and JEFFREY T. SMITH, **Administrative Patent Judges**.  
JEFFREY T. SMITH, **Administrative Patent Judge**.

**ON REQUEST FOR REHEARING**

Appellants have filed a paper under 37 CFR § 41.52 (a)(1)<sup>1</sup> requesting that we reconsider our decision of August 31, 2004.

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<sup>1</sup> Effective Sep. 13, 2004; 69 Fed. Reg. 49960 (Aug. 12, 2004); 1286 Off. Gaz. Pat. Office 21 (Sep. 7, 2004).

37 CFR § 41.52 (a)(1) (2004) provides as follows:

Appellant may file a single request for rehearing within two months from the date of the original decision of the Board. No request for rehearing from a decision on rehearing will be permitted, unless the rehearing decision so modified the original decision as to become, in effect, a new decision, and the Board states that a second request for rehearing would be permitted. The request for rehearing must state with particularity the points believed to have been misapprehended or overlooked by the Board. Arguments not raised in the briefs before the Board and evidence not previously relied upon in the brief and any reply brief(s) are not permitted in the request for rehearing except as permitted by paragraphs (a)(2) and (a)(3) of this section. When a request for rehearing is made, the Board shall render a decision on the request for rehearing. The decision on the request for rehearing is deemed to incorporate the earlier opinion reflecting its decision for appeal, except for those portions specifically withdrawn on rehearing, and is final for the purpose of judicial review, except when noted otherwise in the decision on rehearing.

We have reconsidered our decision of August 31, 2004, in light of Appellants' comments in the request for rehearing, and we find no error therein. We, therefore, decline to make any changes in our prior decision for the reasons which follow.

Appellants assert that the Board has overlooked the plain teaching of the Allender reference because Allender teaches that in his process that hydrogenation of dienes is not necessary. In support of this argument the

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Appellants cite *In re Buehler*, 515 F.2d 1134, 185 USPQ 781 (CCPA 1975).

(Rehearing request p. 1).

This is essentially the same argument Appellants presented in the Reply Brief, page 1. Appellants' citation to *Buehler* is not persuasive. In *Buehler* the appellants' claimed method involved doing what the cited reference (Clark) tried to avoid. Specifically, Clark warned that the method of the appellants' claimed invention would produce unacceptable results. *In re Buehler*, 515 F.2d at 1139, 185 USPQ at 785. These facts are not the same as those in the present case on appeal. The Allender references has not indicated that the hydrogenation of the product from a dehydrogenation process would produce unacceptable results. The indication that something is not necessary means that the thing is not absolutely essential. A reference is available for all that it teaches, not just the preferred embodiments, and a preferred embodiment is not a "teaching away" from the unpreferred embodiment, i.e., an embodiment indicated as not necessary. See *In re Burckel*, 592 F.2d 1175, 1179, 201 USPQ 67, 70 (CCPA 1979); *In re Lamberti*, 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976); and *In re Mills*, 470 F.2d 649, 651, 176 USPQ 196, 198

(CCPA 1972). We recognized that the process of Allender did not include a hydrogenation step for some of the product produced during dehydrogenation. (Decision, p. 4). However, persons of ordinary skill in the art would have recognized that diolefin byproducts (dienes) are present in the product resulting from dehydrogenation of hydrocarbon streams. (See Vora, col. 1). As stated on page 4 of our decision, Vora describes a process for hydrogenating some of the product produced during dehydrogenation. Vora discloses that the selective hydrogenation of the diolefin hydrocarbon product of dehydrogenation converts a substantial amount of diolefinic hydrocarbon to monoolefinic hydrocarbon, which is the desired product of the dehydrogenation unit, i.e., increased quality of the monoolefin product. (See Vora, Col. 5). Thus, a person of ordinary skill in the art would have found it obvious to incorporate a hydrogenation process for the product from a dehydrogenation unit, such as described in Allender, in order reduce the undesirable diolefin byproducts resulting from the dehydrogenation zone and increase the monoolefinic hydrocarbon, which is the desired product of the dehydrogenation unit.

Appellants also argues that a person of ordinary skill in the art would start with the Allender reference and have no reason to look beyond that reference. (Rehearing request p. 2).

This argument is not persuasive. When determining the patentability of a claimed invention which combines known elements, "the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. [Citations omitted]." *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984). In the present case, a person of ordinary skill in the art would have reasonably expected that performing a hydrogenation process on the product from a dehydrogenation unit would have reduced the undesirable diolefin byproducts resulting from the dehydrogenation zone and increase the monoolefinic hydrocarbon, which is the desired product of the dehydrogenation unit as disclosed by Vora. "For obviousness under § 103, all that is required is a reasonable expectation of success." *In re O'Farrell*, 853 F.2d 894, 904, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988).

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In light of the foregoing and for the reasons expressed in our decision, it is our determination that the Examiner has established a *prima facie* case of obviousness with respect to the argued claims on appeal.

We have granted Appellants' request to the extent that we have reconsidered our decision of August 31, 2004, but we deny the request with respect to making any changes therein.

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### Time for taking action

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(iv) (effective Sep. 13, 2004; 69 Fed. Reg. 49960 (Aug. 12, 2004); 1286 Off. Gaz. Pat. Office 21 (Sep. 7, 2004)).

## REHEARING REQUEST DENIED

*Edward C. Kimlin*  
EDWARD C. KIMLIN  
**Administrative Patent Judge**

*Terry J. Owens*  
TERRY J. OWENS  
**Administrative Patent Judge**

  
JEFFREY T. SMITH  
**Administrative Patent Judge**

# BOARD OF PATENT APPEALS AND INTERFERENCES

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